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IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF UTAH, CENTRAL DIVISION

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FATPIPE NETWORKS INDIA LIMITED, an  
India corporation,

Plaintiff,

v.

XROADS NETWORKS, INC., a Delaware  
corporation,

Defendant.

**MEMORANDUM DECISION AND  
REPORT AND RECOMMENDATION  
REGARDING CLAIM CONSTRUCTION**

Case No. 2:09-cv-186 TC  
District Judge Tena Campbell  
Magistrate Judge David Nuffer

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This matter is referred to the magistrate judge for decision pursuant to 28 U.S.C. § 636(b)(1)(B) by Judge Tena Campbell.<sup>1</sup> The parties filed their papers<sup>1</sup> regarding claim construction and appeared at a hearing on December 12, 2011.<sup>2</sup> Presentations and argument were made by counsel Barbara Polich and John Ogilvie for FatPipe and by Blake Ostler and John O'Malley for XRoads. This report and recommendation is submitted to the district judge for construction of selected terms from the claims of the two patents at issue.

**Nature of This Case**

The parties both sell technology to enable secure communications over the internet or wide-area networks (WANs). Plaintiff FatPipe Networks India Limited (FatPipe) owns patents pertaining to “router-clustering technology that provides highly redundant, reliable, and high-speed Internet/WAN access for mission critical business applications.”<sup>3</sup> FatPipe alleges that

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<sup>1</sup> Docket no. 381, filed September 22, 2011.

<sup>1</sup> FatPipe Networks’ Claim Construction Brief (FatPipe 375), docket no. 375, filed August 29, 2011; XRoads Networks, Inc.’s Claim Construction Brief (XRoads 377), docket no. 377, filed September 8, 2011; FatPipe Networks’ Claim Construction Reply Brief (FatPipe Reply 379), docket no. 379, filed September 19, 2011.

<sup>2</sup> Minute Entry, docket no. 426, filed December 12, 2011.

<sup>3</sup> Complaint ¶ 8, docket no. 1, filed February 27, 2009.

Defendant XRoads Networks, Inc. (XRoads) infringes two of FatPipe's patents.<sup>4</sup> XRoads counterclaimed alleging invalidity and non-infringement.<sup>5</sup>

### **Overview of Two Patents in Suit**

FatPipe describes its patent 7,269,143 as presenting "a novel modification of ordinary TCP/IP networking protocol usage. An innovative controller device is positioned between a LAN and a WAN and connected to multiple routers at the edge of the WAN, thereby providing greater bandwidth and/or concurrency for the LAN's users."<sup>6</sup> FatPipe claims the patent uses "SYN modification to implement the choice of a router."<sup>7</sup>

FatPipe describes its patent 7,444,506 as providing

efficient secure parallel data transmission. Data from a local source such as a LAN is divided, with one portion being encrypted and then sent over an open public network such as the Internet, and another portion being sent over a private (and hence more secure) network without any such supplemental encryption.<sup>8</sup>

### **Claim Construction**

On March 15, 2011, the district judge heard<sup>9</sup> the parties regarding claim construction and by their agreement determined the following claims would be construed:<sup>10</sup>

#### **'143 Patent**

1. SYN packet
2. SYN request
3. SYN modifier
4. Contain
5. Address of an identified router

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<sup>4</sup> Complaint ¶¶ 13-26.

<sup>5</sup> Defendant/Counterclaim Plaintiff XRoads Networks, Inc.'s Answer, Affirmative Defenses and Counterclaims at 6-8, docket no. 4, filed March 31, 2009.

<sup>6</sup> FatPipe 375, at 5.

<sup>7</sup> *Id.*

<sup>8</sup> FatPipe 375, at 3-4.

<sup>9</sup> Minute Entry, docket no. 296, dated March 15, 2011.

<sup>10</sup> Order, docket no. 295, filed March 18, 2011.

6. Modified SYN request
7. Subsequent data requests
8. Provides
9. Router selector
10. Having its own physical address and its own IP address

#### ‘506 Patent

1. Supplemental security measure
2. Supplemental security module
3. At least partially in parallel
4. Treated
5. Treating
6. Each of the data packets
7. Interleaved
8. Lower security in one network
9. Lower security of the first network

### **Applicable Standards**

Claim construction is an issue of law for the court to decide.<sup>11</sup> The claims of a patent “define the invention to which the patentee is entitled the right to exclude.”<sup>12</sup> Claim terms “are generally given their ordinary and customary meaning.”<sup>13</sup> A court is to determine “the ordinary and customary meaning of undefined claim terms as understood by a person of ordinary skill in the art at the time of the invention . . . .”<sup>14</sup> “Common words, unless the context suggests otherwise, should be interpreted according to their ordinary meaning.”<sup>15</sup>

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<sup>11</sup> *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc).

<sup>12</sup> *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc)(citation and quotation omitted).

<sup>13</sup> *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996)).

<sup>14</sup> *Felix v. Am. Honda Motor Co., Inc.*, 562 F.3d 1167, 1177 (Fed. Cir. 2009).

<sup>15</sup> *Desper Prods., Inc. v. QSound Labs., Inc.*, 157 F.3d 1325, 1336 (Fed.Cir.1998).

The starting point for construing claim terms is the intrinsic evidence (the claims, the patent specification, and the prosecution history).<sup>16</sup> “In most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term.”<sup>17</sup>

“The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.”<sup>18</sup> Although claims must be read in light of the specification, limitations from the specification may not be read into the claims.<sup>19</sup> The invention should not be limited to the specific examples or preferred embodiment found in the specification.<sup>20</sup>

Courts may also rely on extrinsic evidence in construing claims. Extrinsic evidence is “all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.”<sup>21</sup> “Within the class of extrinsic evidence, . . . dictionaries and treatises can be useful in claim construction.”<sup>22</sup>

Judges are not usually conversant in the particular technical art involved, or capable of reading the patent specification and claims as one skilled in the art might. Therefore, consultation of extrinsic evidence is particularly appropriate to ensure that [the Court's] understanding of the technical aspects of the patent is not entirely at variance with the understanding of one skilled in the art.<sup>23</sup>

The parties provided the court with two texts, referred to frequently in their submissions. These are Joe Casad, *Teach Yourself TCP/IP in 24 Hours* (3<sup>rd</sup> ed. 2004) (Casad), and James F. Kurose

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<sup>16</sup> *Phillips*, 415 F.3d at 1313.

<sup>17</sup> *Vitronics*, 90 F.3d at 1583.

<sup>18</sup> *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998).

<sup>19</sup> *See Phillips*, 415 F.3d at 1323; *Comark Commc'ns. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed.Cir.1998).

<sup>20</sup> *See Phillips*, 415 F.3d at 1323; *Tex. Instruments, Inc. v. U.S. Int'l Trade Comm'n*, 805 F.2d 1558, 1563 (Fed.Cir.1986).

<sup>21</sup> *Markman*, 52 F.3d at 980.

<sup>22</sup> *Phillips*, 415 F.3d at 1318.

<sup>23</sup> *In re Method of Processing Ethanol Byproducts and Related Subsystems* ('858) *Patent Litig.*, No. 1:10–ml–02181–LJM–DML, 2011 WL 4538085, at \*5 (S. D. Ind. Sept. 29, 2011)(citations and quotations omitted).

and Keith W. Ross, *Computer Networking: A Top-Down Approach* (5<sup>th</sup> ed. 2010) (Kurose & Ross).

### **Means-plus-function**

In spite of the “143 Patent’s description of the controller device as an actual component, and the fact that the patent claims never use the word “means,” “XRoads claims that each of the claims of the ‘143 Patent is a means-plus-function and/or step-plus-function.”<sup>24</sup> While this argument was not repeated in more recent filings, it was raised at the claim construction hearing.

“[W]here . . . the claim language does not recite the term ‘means,’ we presume that the limitation does not invoke § 112, ¶ 6”<sup>25</sup> which allows a claim to be expressed as “a means or step for performing a specified function without the recital of structure, material, or acts in support thereof . . . .”<sup>26</sup> XRoads does not discuss the presumption and offers nothing to rebut it.

In cases where the claims do not recite the term “means,” considering intrinsic and extrinsic evidence is usually helpful, as the litigated issue often reduces to whether skilled artisans, after reading the patent, would conclude that a claim limitation is so devoid of structure that the drafter constructively engaged in means-plus-function claiming.<sup>27</sup>

Further, the patent clearly discusses structure in the form of the controller. The patent “delineate[s] the components that the [controller] is connected to, describe[s] how the [controller] interacts with those components, and describe[s] the processing that the [controller] performs.”<sup>28</sup>

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<sup>24</sup> XRoads’ Report of Preliminary Term Construction Definitions, §112(6) Designation and Witness Summary at 17-18, docket no. 281, filed under seal February 28, 2011; [XRoads’] Term Construction Definitions at 12, docket no. 308, filed April 12, 2011.

<sup>25</sup> *Inventio AG v. ThyssenKrupp Elevator Americas Corp.*, 649 F.3d 1350, 1356 (Fed. Cir. 2011).

<sup>26</sup> 35 U.S.C. § 112.

<sup>27</sup> *Inventio*, 649 F.3d at 1357.

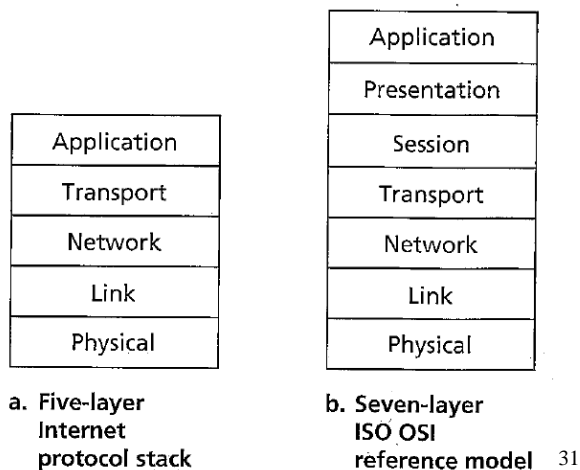
<sup>28</sup> *Id.* at 1359.

Similarly the “step-plus” argument fails. Step-plus-function language pertains only to method claims, not to apparatus claims of the type set forth in the ‘143 patent.<sup>29</sup>

### **Background on Terms and Phrases in the ‘143 Patent**

The area of substantial dispute in the ‘143 patent centers on four terms related to the claimed ability of the patent to route data “using a novel variation on the standard SYN packet synchronization protocol . . . .”<sup>30</sup> These terms are “SYN packet,” “SYN request,” “modified SNY request” and “SYN modifier.” The disputes about these terms are whether “SYN packet” and “SYN request” are synonymous and whether any of these terms affect portions of a network data package beyond the transport layer.

By way of background, network data is transmitted according to protocols. Because many protocols are used to transmit each package of data, the protocols are often discussed in layers. For analytical purposes, two major conceptual models are used to illustrate the functions of the protocols.



<sup>29</sup> *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996).

<sup>30</sup> ‘143 Patent Abstract.

<sup>31</sup> Kurose & Ross, at 51..

While the protocols are often discussed independently, the entire protocol stack is present in a data package. “When taken together, the protocols of the various layers are called the **protocol stack**. The Internet protocol stack consists of five layers: the physical, link, network, transport and application layers . . . .”<sup>32</sup>

The term “SYN” comes from the initiation phase of a network transmission. XRoads’ presentation at the hearing noted that the patent itself references the general use of the SYN term.<sup>33</sup> “SYN packets in and of themselves are known in the art.”<sup>34</sup>

XRoads also referenced the Kurose & Ross text which explains that data transmissions initiate when “[t]he client-side TCP first sends a special TCP segment to the server-side TCP” with no application-layer data, but where “one of the flag bits in the segment’s header, . . . the SYN bit, is set to 1. For this reason, this special segment is referred to as a SYN segment. . . . This segment is encapsulated within an IP datagram and sent to the server.”<sup>35</sup>

A SYN bit would be contained in a TCP segment, with the SYN flag set to a value of 1, and that segment would be sent to a server as part of an IP datagram. The TCP segment is part of the transport layer, while the IP datagram is in the network layer in the overall data package.

One reasonably skilled in the art of network protocols expects that a SYN segment (contained in the TCP transport layer) is like every other network data package, encapsulated in a complete network packet which includes other layers. Anyone reading the ‘143 patent comes away with this understanding.

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<sup>32</sup>*Id.* (emphasis in original).

<sup>33</sup> XRoads’ Markman Presentation at slide 13, lodged under seal as docket no. 434 on January 31, 2012.

<sup>34</sup> ‘143 Patent, column 2, line 57-58.

<sup>35</sup> Kurose & Ross, at 264.

The three disputed terms are introduced in context in Claims 1-5 as follows:

a **SYN modifier** which . . . **modified SYN requests** that contain the address of an identified router<sup>36</sup>

the **SYN modifier** provides a **modified SYN request** that contains the IP address of a machine running the controller software, and the modified **SYN packet** specifies the physical address of an identified router selected by the router selector instead of specifying the physical address of the machine running the controller.<sup>37</sup>

the **SYN modifier** provides a **modified SYN request** that contains the physical address of a machine running the controller, and the modified packet specifies the physical address of an identified router selected by the router selector instead of specifying the physical address of the machine running the controller.<sup>38</sup>

the **SYN modifier** provides a **SYN request** that contains the IP address of a first identified router, and the **modified SYN request** specifies the physical address of a second identified router selected by the router selector instead of specifying the physical address of the first identified router.<sup>39</sup>

the SYN modifies a **SYN request** that contains the physical address of a first identified router, and the **modified SYN packet** specifies the physical address of a second identified router selected by the router selector instead of specifying the physical address of the first identified router.<sup>40</sup>

Each of these Claims which use the SYN-related terms also refer to physical addresses and IP addresses. These addresses are necessarily contained in the IP network layer of a data transmission. “The IP header contains . . . the IP addresses of the source and destination computers . . . .”<sup>41</sup>

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<sup>36</sup> ‘143 Patent, claim 1.

<sup>37</sup> ‘143 Patent, claim 2.

<sup>38</sup> ‘143 Patent, claim 3.

<sup>39</sup> ‘143 Patent, claim 4.

<sup>40</sup> ‘143 Patent, claim 5.

<sup>41</sup> Casad, at 53.



The patent specification makes the statement that “IP communication starts with a SYN packet.”<sup>42</sup> Describing the modification of the SYN packet, the specification also speaks of the addresses contained in that data package.

The controller 308 then modifies the SYN packet by replacing the source *physical address* 50 with the *physical address* of the selected router and the source *IP address* with the IP address of the controller 308.<sup>43</sup>

The SYN modifier 412 modifies SYN requests that contain the *IP address* of an identified router 110 or the *IP address* of the controller, each modified request specifying the *physical address* of an identified router 110 which was selected by the router selector 406 and the *IP address* of the controller 202.<sup>44</sup>

A “SYN packet” includes the entire data package necessary to transmit the SYN flag, including the IP network layer which contains device addresses. This is apparent from the general understanding of transmission of a SYN flag; from the use of the term in the Claims; and from the use of the term in the specifications.

It is also clear from reading the claims and specification that the terms “SYN request” and “SYN packet” are equivalent. The Claims refer to both modified SYN requests and modified SYN packets as the output of the SYN modifier. Comparing the claims shows that either “packet” or “request” is shown as the output.

a SYN modifier. . . provides modified SYN **requests** that contain the address of an identified router . . . .<sup>45</sup>

the SYN modifier provides a modified SYN **request** that contains the IP address of a machine running the controller software and the modified SYN **packet** specifies the physical address of an identified router . . . .<sup>46</sup>

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<sup>42</sup> ‘143 Patent, column 2, lines 56-57.

<sup>43</sup> *Id.*, column 8, lines 48-52 (emphasis added).

<sup>44</sup> *Id.*, column 23, lines 58-63 (emphasis added).

<sup>45</sup> ‘143 Patent, claim 1.

<sup>46</sup> ‘143 Patent, claim 2.

the SYN modifier provides a modified SYN **request** that contains the physical address of a machine running the controller, and the modified **packet** specifies the physical address of an identified router . . . .<sup>47</sup>

the SYN modifier provides a SYN **request** that contains the IP address of a first identified router, and the modified SYN **request** specifies the physical address of a second identified router . . . .<sup>48</sup>

the SYN modifies a SYN **request** that contains the physical address of a first identified router, and the modified SYN **packet** specifies the physical address of a second identified router . . . .<sup>49</sup>

XRoads claims that the patent is limited to modification of SYN information in the TCP header of the TCP layer of a data transmission. XRoads claims that “[a]t no time does the 143 Patent EVER discuss either an IP header or a frame header. The only time [the patent] makes any reference to when or where an IP address or physical/MAC address change occurs is within a TCP header.”<sup>50</sup> XRoads refers to Column 38, lines 10-19:

All packets subsequent to the SYN request to the same server will go through the same TCP header changes, i.e., the source IP and physical address are replaced by one of the IP address and physical address of the controller. The destination physical address is replaced by the physical address of the selected router. All the reply packets from the server go through the changes in reverse direction where the destination IP address and physical address is replaced with the IP and physical address of the client node on the LAN so that the packet reaches the proper node.

The specification’s reference to address information within the TCP header is an error. There is no address information in a TCP header. This is apparent to a knowledgeable reader; particularly in view of the language in the Claims regarding the modifications of addresses. XRoads knows it is an obvious error: “[T]he IP and physical addresses are not located within the TCP

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<sup>47</sup> ‘143 Patent, claim 3.

<sup>48</sup> ‘143 Patent, claim 4.

<sup>49</sup> ‘143 Patent, claim 5.

<sup>50</sup> XRoads 377, at 11.

header.”<sup>51</sup> An error in a patent specification that is easily detectable by anyone skilled in the art does not invalidate a patent.<sup>52</sup> While XRoads objected to consideration of general knowledge of network protocols as “extrinsic evidence,”<sup>53</sup> this is the sort of fundamental extrinsic evidence that assists a judge in reading a patent as would a person knowledgeable in the field.

#### A. SYN packet (‘143 patent)

Following discussion, at the hearing, the parties agreed upon this definition.<sup>54</sup>

A “SYN packet” is a packet which contains a synchronize (SYN) control flag used in establishing a communication session between two network nodes. A “packet” is a controlled unit of data transmission in a packet-switched network. The internet and local area networks (LANs) are some examples of packet-switched networks. Networked computers, servers, routers, and other networked devices are some examples of network nodes.

#### B. SYN request (‘143 patent)

Following discussion with the parties at the hearing, this definition was agreed.<sup>55</sup>

“SYN request” is used interchangeably with “SYN packet.” Hence, a packet which contains a synchronize (SYN) control flag used in establishing communication between two network nodes is an example of a SYN request.

#### C. SYN modifier (‘143 patent)

While XRoads asserts this term should require modification of a physical address *and* IP address,<sup>56</sup> nothing in the Patent supports this definition. Claim and specification language states the IP address may be specified or provided, but nowhere does the Patent say the IP address is modified.

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<sup>51</sup> *Id.* at 9.

<sup>52</sup> *PPG Indus., Inc. v. Guardian Indus. Corp.*, 75 F.3d 1558, 1564 (Fed. Cir. 1996).

<sup>53</sup> Audio Record of Hearing December 12, 2011 (Audio Record of Hearing) at 10:41:32 – 10:43:25.

<sup>54</sup> *Id.* at 10:54:20 – 10:54:45

<sup>55</sup> *Id.* at 10:54:45 – 10:55:30

<sup>56</sup> XRoads 377, at 11.

. . . SYN modifier 412 provides modified SYN requests that contain the IP address of an identified router . . . .<sup>57</sup>

. . . the SYN modifier provides a modified SYN request that contains the IP address of a machine . . . .<sup>58</sup>

. . . the SYN modifier provides a SYN request that contains the IP address of a first identified router . . . .<sup>59</sup>

It is clear from Claims 2-5 that the address of each identified router is in the modified packet. Therefore, this definition is adopted:

A “SYN modifier” is a process or device which modifies a SYN packet or a SYN request after router selection and specifies the address of an identified router which was selected by the router selector.

#### D. Modified SYN request (‘143 patent)

A “modified SYN request” is a SYN packet or a SYN request which has been modified from conventional usage.

#### E. Address of an identified router (‘143 patent)

XRoads argued that this term should have a conjunctive definition, to refer “to both the IP address and physical address as specified in Claim 1.”<sup>60</sup> However, Claim 1 merely states the fact that “each identified router [will have] its own IP address and its own physical address” not that both addresses will be used by the router selector. And the term “address of an identified router” used in the Claim is singular. There is no requirement that both a physical address and an IP address be used. Either may be used.

“Address of an identified router” means a physical address or an IP address of a network interface of a router which is identified by at least one such address.

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<sup>57</sup> 143 Patent, column 37, lines 64 -65.

<sup>58</sup> ‘143 Patent, claim 2.

<sup>59</sup> ‘143 Patent, claim 4.

<sup>60</sup> XRoads 377, at 32.

F. Subsequent data requests ('143 patent)

While this term had been disputed before the hearing, the definition below was agreed upon at the hearing.<sup>61</sup>

In the context of claim 1, a “subsequent data request” is a data request which is subsequent to the router selector selecting between identified routers. A “data request” is a packet which requests that data be transmitted to a network node. The term “subsequent” is used in its ordinary lay sense, e.g., A is subsequent to B if A follows B or finishes after B finishes.

G. Router selector ('143 patent)

FatPipe proposed a very brief definition which did not define the criteria by which the selection is made. Therefore, the following construction follows the criteria from the Patent.<sup>62</sup>

A “router selector” is a device component which designates or chooses a router “in a manner which increases concurrent operation of identified routers by sending subsequent data requests and their corresponding responses through the selected router, thereby helping provide improved external access to the computer network through identified routers.”

The balance of the terms were not significantly dispute.

H. Contain ('143 Patent)

“Contain” means “to have within,” “have as part of,” or “have located within.”

I. Provides ('143 patent)

“Provides” means “to create, supply, or make available.”

J. Having its own IP address and its own physical address ('143 patent)

“Having its own IP address and its own physical address” refers to a computer or other network device which has a physical address and also has an IP address. A “physical address,” also known as a “MAC address,” is a hardware address that uniquely identifies a network interface at the data link layer of a network protocol stack. An “IP address” is an identifier for a network interface on a TCP/IP network at the network layer of a network protocol stack. Networks using the TCP/IP protocol route messages based in part on the IP address of the destination.

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<sup>61</sup> Audio Record of Hearing at 11:20:10 – 11:21:20.

<sup>62</sup> '143 Patent, claim 1.

A router may have more than one physical address and more than one IP address, because it may have more than one network interface, but the router referred to in “having its own physical address and its own IP address” will have at least one IP address and at least one physical address.

### **Terms and Phrases in the ‘506 Patent**

#### **K. Supplemental security measure (‘506 patent)**

The parties agree<sup>63</sup> that the definition from FatPipe’s Reply Brief is accurate and acceptable.<sup>64</sup>

A “supplemental security measure” is a measure, including at least encryption, which supplements the security of data.

#### **L. Supplemental security module (‘506 patent)**

The parties agree<sup>65</sup> that the definition from FatPipe’s Reply Brief is accurate and acceptable.<sup>66</sup>

A “supplemental security module” is software and hardware configured to supplement the security of data, using at least encryption, and optionally using one or more other security measures such as authentication, watermarking, tamper-detection, or physical security, for example.

#### **M. At least partially in parallel (‘506 patent)**

Two definitions are needed for the term “at least partially in parallel” because the term can apply to networks or to data packet transmission. The term is used in both those contexts in the ‘506 patent.<sup>67</sup> The parties agreed to the definitions below.<sup>68</sup>

At least partially in parallel (as to networks)

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<sup>63</sup> Audio Record of Hearing at 11:57:19 am– 12:00:00 pm.

<sup>64</sup> FatPipe Reply 379, at 21.

<sup>65</sup> Audio Record of Hearing at 12:00:20 pm -12:00:35 pm.

<sup>66</sup> FatPipe Reply 379, at 21.

<sup>67</sup> ‘506 patent, column 7, lines 42-48

<sup>68</sup> Audio Record of Hearing at 12:00:45 pm - 12:05:40 pm.

With respect to arrangement of networks, “at least partially in parallel” means that at least two network interfaces are available to be used at the same instant in time at least for some of the time.

At least partially in parallel (as to transmission of data packets)

With respect to transmission of data, “at least partially in parallel” means transmission over parallel networks during which transmission of a first portion of data chronologically at least overlaps in part transmission of a second portion of data, even if there are also times when only one of the parallel networks is actually carrying part of the divided data.

N. Treated (‘506 patent)

The parties also agreed to the definitions of “treated” and “treating.”<sup>69</sup>

“Treated” means “acted upon,” “subjected to,” or “having had applied.” For example, data treated with encryption is data acted upon by encryption, subjected to encryption, or having had encryption applied.

O. Treating (‘506 patent)

“Treating” means “acting upon,” “subjecting to,” or “applying to.” For example, treating data with encryption is done by acting upon the data with encryption, subjecting the data to encryption, or applying encryption to the data.

P. Each of the data packets (‘506 patent)

The parties agreed to the definition of “each of the data packets.”<sup>70</sup>

“Each of the data packets” is a specified unit of data that is divided or broken down from a larger data source into discrete chunks.

Q. Interleaved (‘506 patent)

The parties disputed the meaning of “interleaved.” The principal distinction between the proposed definitions is that XRoads first saw interleaving as simply alternating, for example:

A B A B A B

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<sup>69</sup> Audio Record of Hearing at 12:05:42 pm - 12:06:47 pm.

<sup>70</sup> Audio Record of Hearing at 12:06:47 pm - 12:07:40 pm.

FatPipe does not agree that “that alternating is the only form of interleaving.”<sup>71</sup> FatPipe says interleaving may include bookending any number of items of one type between at least two items of another type, for example:

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A B A B A
A A B A A B
A A B B B A B A A B B B B B B A

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Claim 2 of the ‘506 Patent includes a specific illustration of interleaving which is instructive:

[R]eceipt of at least one data packet of the first collection occurs between receipt of at least two data packets of the second collection, and receipt of at least one data packet of the second collection occurs between receipt of at least two data packets of the first collection.<sup>72</sup>

The patent uses the term “interleaved” consistent with the concept FatPipe proposes and the parties eventually agreed to the following construction:<sup>73</sup>

When data packets in a first collection are interleaved with data packets in a second collection, at least one data packet of the first collection occurs between receipt of at least two data packets of the second collection, and receipt of at least one data packet of the second collection occurs between receipt of at least two data packets of the first collection.”

“Lower security in one network” and “lower security of the first network,”

With regard to the terms “lower security in one network” and “lower security of the first network,” XRoads argued that the construction must require that one network be a private network and that the other network must be the internet.<sup>74</sup>

It is clear that Claims 1 and 22 speak of two networks, one of which is a private network and the other of which is the internet.<sup>75</sup> It is also true that Figures 2, 3 4 and 5 show a private

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<sup>71</sup> FatPipe 375, at 22.

<sup>72</sup> ‘506 Patent, Column 11, lines 57-62.

<sup>73</sup> Audio Record of Hearing at 12:07:41 pm - 12:08:49 pm.

<sup>74</sup> FatPipe 375, at 25-26.

<sup>75</sup> ‘506 Patent, claim 1, lines 34-37; 41-45; ‘506 Patent, claim 22, lines 3-8; 23-26.



network and the internet. However, the terms under review are used only in Claim 10, which does not speak of a private network and the internet, but speaks of a “first wide area network” and a “second wide area network.”<sup>76</sup> Claim 10 is not dependent on Claims 1 or 22. Therefore, the construction of “lower security in one network” and “lower security of the first network” will not include the limitation that one network must be the internet and the other network must be a private network.

The following terms are not in dispute:

R. Lower security in one network (‘506 patent)

“Lower security in one network” X than in another network Y means that network X is vulnerable to a threat that network Y resists. Equivalently, network X has lower security than network Y when network X lacks to some extent a security characteristic that is present in network Y.

S. Lower security of the first network (‘506 patent)

“Lower security of the first network” means that the first network is vulnerable to a threat that a second network resists. Equivalently, a first network has lower security than a second network when the first network lacks to some extent a security characteristic that is present in the second network.

### **RECOMMENDATION**

The magistrate judge recommends that the district judge enter an order construing the claims of the patents as stated in this report and recommendation. The parties should be ordered not to refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties must not mention any portion of the eventual order, other than the actual definitions adopted in it, in the presence of the jury. Any reference to claim construction proceedings should be limited to informing the jury of the definitions adopted in this order.

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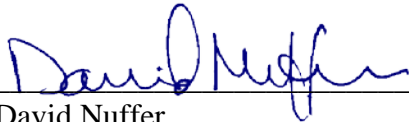
<sup>76</sup> ‘506 Patent, claim 10, lines 33 and 35.

**NOTICE TO THE PARTIES**

Within 14 days after being served with a copy of this recommended disposition, a party may serve and file specific, written objections. A party may respond to another party's objections within 14 days after being served with a copy thereof. The rules provide that the district judge to whom the case is assigned shall make a *de novo* determination upon the record, or after additional evidence, of any portion of the magistrate judge's disposition to which specific written objection has been made in accordance with this rule. The district judge may accept, reject, or modify the recommended decision, receive further evidence, or re-commit the matter to the magistrate judge with instructions. Failure to file objections may constitute a waiver of those objections on subsequent appellate review.

Dated February 9, 2012.

BY THE COURT:



David Nuffer  
U.S. Magistrate Judge